

## METHOD OF DIAGNOSING DISORDERS OF BONE DENSITY OF THE BODY

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**RELEVANCE OF THE PROBLEM.** Now common disease is osteoporosis as a violation of bone mineral density that is a consequence of the loss of macronutrients in the human body [1]. The actual task is the definition in the bone mass the localization of reductions in density for predicting fractures. Recently in the field of diagnostics of pathological formations established certain methods that allow based on analysis, the gradient fields to determine the coordinates of pathological entities [2] in biological tissues *in vivo*. Since, diagnosis of osteoporosis is not possible investigating all the bones, while at the same time, you need to determine the coordinates of location and identify the disease, which is why there is need to create of integrated system diagnostics.

**MATERIAL AND RESEARCH RESULTS.** In this work, we propose using the model system of screening diagnostics based on the measurement of the propagation velocity of ultrasonic vibrations in the bones of the patient.

Shows the principle of operation of the peripheral converters of the system, containing the vibrations source and the receiver, which are not in a single all-in-one (integrated) housing. Influence of soft tissue on the measurement results is minimized, when using Omnipatch-technology. Method of measurement provides the ability to diagnose not only on limited areas of the bones, but on the whole bones (radial bone, humerus, etc.) and parts of the skeleton.

However, the measurement results are used for screening diagnostics of the general condition of the patient.

**CONCLUSIONS.** Proposed measurement principles make it possible comprehensively to diagnose human skeletal system, and as a result, increase the accuracy of measurement of the coordinates of localization disorders of bone density.

### References

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